

# NEWSLETTER

No. 125

A Society for Applied Spectroscopy Affiliate  
Editor: K. S. Kalasinsky

August 1997



Coblentz President John Bertie (L) presents the Williams–Wright Award to Mike Pelletier of Kaiser Optical Systems, Inc. at the Pittsburgh Conference in Atlanta this past March.

## EDITOR'S COMMENTS

The Coblentz Society continues to grow and expand. This newsletter is your link with the rest of the society. You are welcome to contribute articles and comments for those items or events that you wish to broadcast. The next due date for newsletter submissions is November 1st for the February issue. Regardless of the number of contributions, we will always be printing the events and progress of the Society so you can keep in touch with the Board members and Officers. Newsletter requests can be mailed directly to the newsletter editor as noted in the officer section at the end. Be sure to look for the *Coblentz Society Newsletter* in every February and August issue of *Applied Spectroscopy*.

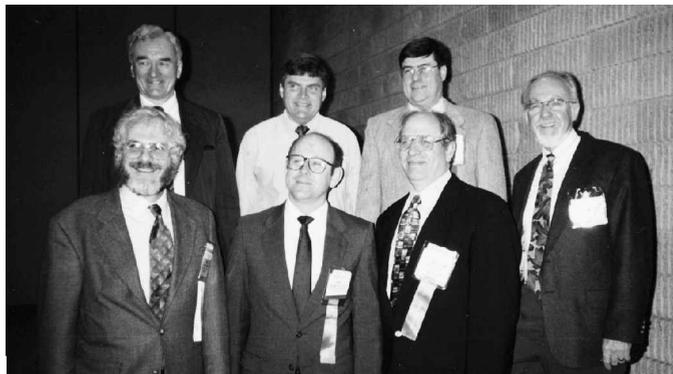
KATHY KALASINSKY

## PRESIDENT'S MESSAGE

Overall, this has been a successful year for your Society. First, it has been successful financially. Financial success is not the goal of the Society; however, it is sometimes necessary to make money to compensate for the

times when we do not, and the more we make, the more programs we can implement to foster vibrational spectroscopy. It has also been a very successful year for our programs. The Coblentz Society now has a Web site, thanks to Don Kuehl and his people at Galactic. It contains most of the information about the Society that you would wish to know. It is part of the Galactic Web site, at <http://www.galactic.com/Coblentz/>. We hope you will find the web site useful, and be sure to let us know of anything else you would like to see there.

The Society runs programs in four main areas: student awards, data bases in hard copy or electronic form, support for international conferences held in North America, and awards for achievement by established scientists. Our collaboration with NIST to produce an inexpensive digital data base of high-quality infrared spectra is making progress. These collaborations are always a bit spasmodic, but the way things are going, we hope to market a product we will be pleased with, in the not-too-distant future. There is currently discussion in the Society about creating a data base of Raman spectra. This is a lot more tricky than an infrared data base, because there are more variables in Raman spectroscopy, such as the effect of



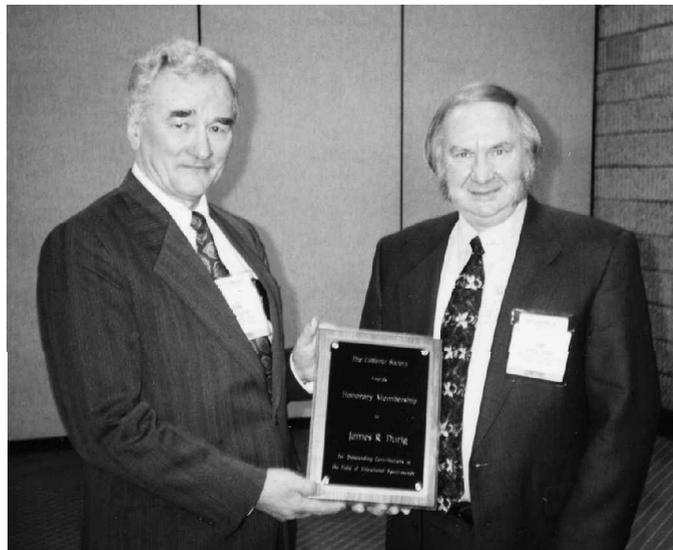
The Williams–Wright Award Symposium at the Pittsburgh Conference in Chicago featured (bottom row, left to right) Mike Morris (speaker, University of Michigan), Mike Pelletier (awardee, Kaiser Optical Systems), Bruce Chase (speaker, DuPont Experimental Station), (top row, left to right) John Bertie (award presenter, Coblentz Society President), Joel Harris (speaker, University of Utah), Curt Marcott (speaker, Procter & Gamble Co.), and Richard Palmer (symposium chairman, Duke University).

different excitation wavelengths. If you are interested in this, or have views on it, please speak to Fran Adar and Mike Morris, who are exploring this issue for the Society.

This has been a good year for Coblentz-supported conferences. The 15th International Conference on Raman Spectroscopy (XVth ICORS), hosted by Sandy Asher, was very successful, as was the Second Conference on Advanced Infrared Spectroscopy (AIRS II), hosted by Richard Palmer. Scientific success is the goal of a conference, and financial success also means that we get most of our money back so that we can support more conferences. To Sandy and Richard, I offer my congratulations on their success and my thanks for their hard work and for their effective budgeting. The Coblentz Society has given financial support to the 11th International Conference on Fourier Transform Spectroscopy. This is being organized by Jim de Haseth and Rich Dluhy for Athens, Georgia, in August 1997, and promises to be a very interesting and enjoyable conference. Support the Society by attending the 11th ICOFTS.

The Society's awards for scientific achievement are the Coblentz Award, the Bomem–Michelson Award, The Lippincott Award, and the Williams–Wright Award. Please note that full details for these awards, and the deadlines and addresses for nomination, can be found on the Coblentz Society's Web site. The winner of the 1997 Coblentz award is Mounji Bawendi of MIT, for his spectroscopic studies of microstructures. Congratulations to Mounji, who will give his award lecture at Columbus in June. And thanks to Paul Alivisatos for chairing the Selection Committee this year and for his three years of work on the committee. The Bomem–Michelson Award for 1997 was won by William H. Woodruff, for his development and use of very fast infrared spectroscopy, particularly for biological systems. Woody received his award and entertained us with his exciting award lecture at the start of the Bomem–Michelson Symposium at Pittcon on Wednesday afternoon. John Hellgeth and Woody arranged a very interesting symposium. And, as always, it is a pleasure to remind you to thank Henry Buijs of Bomem for his sponsorship of this award each year. John Hellgeth is one of those people that presidents hope for. He has done a superb job as Chair of the Bomem–Michelson Award Selection Committee for the past two years, and, at my request, John has agreed to chair the Coblentz Award Selection Committee for the next three years. There was a lot of activity with the Lippincott Award in 1996. I presented the 1995 Lippincott Award to Giacinto Scoles of Princeton University at the Columbus Symposium in June, and John Rabolt presented the 1996 Lippincott Award to Giuseppe Zerbi at the Raman Conference in Pittsburgh in August. Recently it has been announced that Robin Hochstrasser has been chosen the winner of the 1997 Lippincott Award. The winner of the 1997 Williams–Wright Award is Mike Pelletier. Mike received his award and gave an excellent award lecture at the start of the Williams–Wright Award Symposium at Pittcon. Richard Palmer organized a fine symposium that informed and entertained us all. Particular thanks are due to Richard, who has chaired the Selection Committee for the past two years.

The Coblentz Society is a member of the Federation of Analytical Chemistry and Spectroscopy Societies,

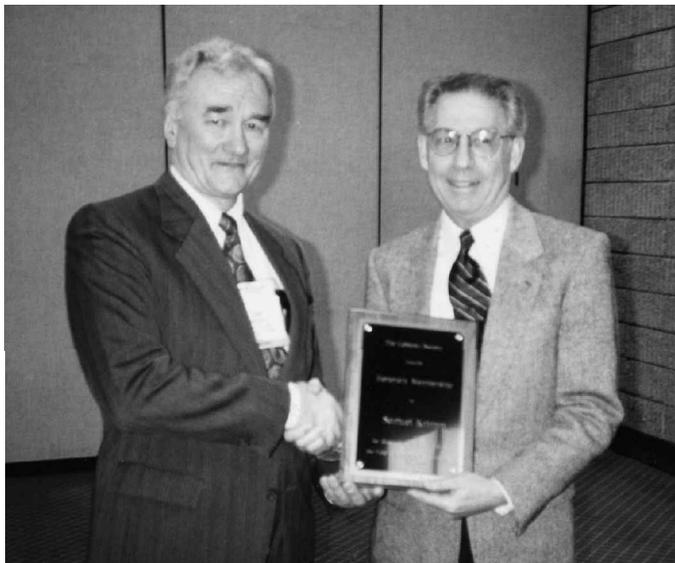


Coblentz President John Bertie (L) presents Honorary Membership to Jim Durig of the University of Missouri at Kansas City for outstanding contributions to the field of vibrational spectroscopy. This award was presented at the annual meeting of the Coblentz Society at the Pittsburgh Conference in Atlanta this past March.

FACSS to all. Rachael Barbour was the Chair of the Governing Board in 1996, and Paul Bourassa and Jim Rydzak looked after the interests of the Coblentz Society on the Governing Board. They had an unusually busy year, and all deserve our thanks. Paul is now Treasurer of FACSS, and Michael Carrabba has joined Jim Rydzak as representatives of the Coblentz Society on the Governing Board.

We had a special moment at the annual business meeting at Pittcon. The Board of Managers can, by vote of  $\frac{2}{3}$  of the managers, elect to honorary membership in the Society "individuals who are deemed to have made outstanding contributions to the field of vibrational spectroscopy or to any other field related to the purposes of the Society". The complete list of honorary members is on our Web site. At its fall meeting in Kansas City, the Board elected Jim Durig of the University of Missouri at Kansas City and Sam Krimm of the University of Michigan to honorary membership in the Society. I had the pleasure to present the honorary membership plaques to Jim and Sam during the annual business meeting.

The Pittsburgh Conference is the time when the Board changes: Dave Schiering and Don Kuehl left the Board this March, and Concetta Paralusz and John Coates joined the Board to replace them. Welcome to Connie and John, and a sincere thank you to Dave and Don for their work for the Society. In fact, neither Dave or Don will escape from us. Dave will continue as Secretary, and Don has accepted the responsibility for managing our Web site and keeping it up to date. At next year's Pittcon, Robin Garrell and Nancy Ferris end their terms as Board members. If you want to suggest a candidate for the Board election, please let your president know. Finally, the last Board change at Pittcon was that I ended my term as president. All presidents end their terms with a small sigh of relief because, in spite of having fun, and being helped by all kinds of willing help, one discovers that it is quite a bit of work being president of the Coblentz



Coblentz President John Bertie (L) presents Honorary Membership to Sam Krimm of the University of Michigan for outstanding contributions to the field of vibrational spectroscopy. This award was presented at the annual meeting of the Coblentz Society at the Pittsburgh Conference in Atlanta this past March.

Society. So please welcome, and be kind to, your new President, Arlene Garrison.

JOHN BERTIE

#### COBLENTZ/NIST TO PRODUCE IR DATA BASE

The Coblentz Society and the National Institute of Standards and Technology (NIST) have joined efforts to produce a much needed digital infrared data base for spectral searching and identification. The Coblentz Society has long been noted for its high-quality evaluated infrared reference data and for the recommended standards for infrared data productions. NIST has long had the reputation of producing the highly circulated mass spectral data base and is now entering a joint effort to likewise produce an infrared data base. This new joint effort is initiated under a Cooperative Research and Development Agreement (CRADA) pursuant to 15 U.S.C. section 3710a. Under this agreement, NIST and Coblentz will produce a digital infrared data base for distribution through NIST as the *Coblentz/NIST IR Data Base*.

The initial product from NIST is targeted for a 1997/1998 release and will contain approximately 20,000 spectra. Approximately half of the spectra are from the NIST/EPA library and half are spectra from digitized Coblentz reference data. Initially the IR data base will include both gas-phase and solid-phase spectra but will be broken down into subsets by phase and compound class once the data base is sufficiently large to warrant such treatment. Specialty subsets of IR data much like the existing Coblentz reference volumes are on-line for production. The existing 10,000 spectra volume series of Coblentz data are also on-line for inclusion in the *Coblentz/NIST IR Data Base*. Updates of the data base are scheduled to be produced periodically.

NIST will be providing additional data measurements and data base compilation for distribution including software developments for data handling. The Coblentz So-

ciety will be spearheading data solicitation and data evaluation. Any individuals or organizations that have produced IR reference data sets are encouraged to participate in this effort. The Coblentz Society will be collecting data sets and evaluating them for inclusion into the *Coblentz/NIST IR Data Base*. Contributors may retain the copyright for donated spectra or assign the copyright to NIST or the Coblentz Society.

If you are interested in this data base or in contributing data to this national/international effort, please contact either Kathy Kalasinsky (301/319-0055) or Clara Craver (573/358-2589) for further information.

#### INTERNATIONAL CONFERENCE UPDATE

The Third International Symposium on Advanced Infrared Spectroscopy, AIRS III, will be held July 5-9, 1998, in Vienna, Austria. The Symposium will focus on new developments in the field of dynamic infrared and Raman spectroscopy as well as other emerging and industrially relevant techniques of advanced vibrational spectroscopy. Some of the topics to be included are time-resolved FT-IR spectroscopy (rapid-scan, step-scan) and Raman spectroscopy, new developments in irradiation sources and lasers, new developments in monochromators and detection systems, microscopy and imaging, SEIRA and SERS, miniaturized and hyphenated systems, 2D correlation analysis and chemometrics, process control and sensor developments, VIS, NIR, MIR, and FIR. The scientific program will consist of invited plenary lectures, contributed papers presented as posters, and an exhibition of latest instrumentation and software. AIRS III will be preceded by an intensive short course on advanced IR and Raman spectroscopy at the Vienna University of Technology. For more information about AIRS III, contact

Eva-Maria Schaub, Congress Consultant  
% Institute for Analytical Chemistry  
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Fax: +43-1-5867813  
E-mail: blendl@fbch.tuwien.ac.at

#### COBLENTZ STUDENT AWARDS, 1997

The Coblentz Society congratulates its Student Award winners for their work in the field of vibrational spectroscopy. Graduate and undergraduate students are indicated by G and U.

VINCENT DESIDERIO, Department of Chemistry, Farmingdale State University (Prof. Yeshwant K. Purandare) (U).

A. J. ROSSMAN,\* Department of Chemistry, Rose-Hulman Institute of Technology (Prof. Howard L. McLean), *Vibrational spectroscopy in environmental monitoring of oils and surfactants* (G).

STEFAN M. STOLTZ, NYS College of Ceramics, Alfred University (Prof. Robert A. Condrate, Sr.), *IR and Raman*

\* 1996 winner, nomination received late.

*spectral study of perovskite-structured alkaline earth plumbates (APbO<sub>3</sub>). (U).*

## CALL FOR NOMINATIONS FOR THE COBLENTZ SOCIETY'S AWARDS

The Coblenz Society requests nominations for the prestigious awards it supports:

**Coblenz Award.** The Coblenz Award is presented annually to an outstanding young molecular spectroscopist under the age of 36. The candidate must be under the age of 36 on January 1 of the year of the award. Previous recipients of this award are John Overend (1964), William Fateley/Robert Snyder (1965), Edwin Becker (1966), Peter Krueger (1967), Jon Hougen (1968), James Durig (1969), Guiseppi Zerbi (1970), Clive Perry (1971), George Leroi (1972), C. Bradley Moore (1973), C. K. N. Patel (1974), Bernard J. Bulkin (1975), Geoffrey Ozin/George Thomas, Jr. (1976), Peter Griffiths (1977), Lester Andrews (1978), Lionel Carreira (1979), Richard Van Duyne (1980), Laurence Nafie (1981), Christopher Patterson (1982), Dave Cameron (1983), Steve Leone (1984), John Rabolt/Graham Fleming (1985), Joel Harris (1986), Alan Campion (1987), Keith Nelson (1988), Geri Richmond (1989), Hai-Lung Dai (1990), Paul Bohn (1991), Tom Rizzo (1992), Peter Felker (1993), Paul Alivisatos (1994), David J. Rakestraw (1995), Xiaoliang Sunney Xie (1996), and Mounji Bawendi (1997).

The award carries with it a \$1000 prize plus a \$500 travel allowance. Files of candidates will be kept active until the date of age eligibility is exceeded. Annual updates of files of candidates are encouraged.

Nominations, which should include a detailed description of the nominee's accomplishments, a curriculum vitae, and as many supporting letters as possible, must be submitted to the award chairman, [Dr. John Hellgeth, Spectra-Tech, Inc., 2 Research Drive, Shelton, CT 06484-0869; phone (800)-243-9186 (USA only) or (203)-926-8998; fax (203)-926-8909; e-mail hellgeth@spectra-tech.com] on or before July 1, 1998.

**Williams-Wright Award.** This award is presented annually at the Pittsburgh Conference to an industrial spectroscopist who has made significant contributions to vibrational spectroscopy while working in industry. The work may include infrared and/or Raman spectroscopy and instrumental development as well as theory and applications of vibrational spectroscopy. Government labs are not considered industry in this definition. No restrictions are placed on the selection of the awardee because of age, sex, or nationality, but the awardee must still be working at the time the award is presented. The nominating document should clearly state the significance of the contribution made by the nominee, e.g., the introduction of novel methods, techniques, or theories; innovative work in the field of vibrational spectroscopy; significant improvement on existing methods, theory, or techniques; or important impact on the field of vibrational spectroscopy arising from the volume of contributions in a specific area. The nomination should include a resume of the nominee's career and highlight the accomplishments and any publications and talks. Seconding letters to the nomination are useful, but not necessary. Files on nominees



Coblenz members enjoy discussions after the Williams-Wright Symposium at the Pittsburgh Conference in Atlanta this past March. (Left to right) Jim Elliot, Peter Griffiths, Dana Mayo, Bruce Chase, and Fran Adar.

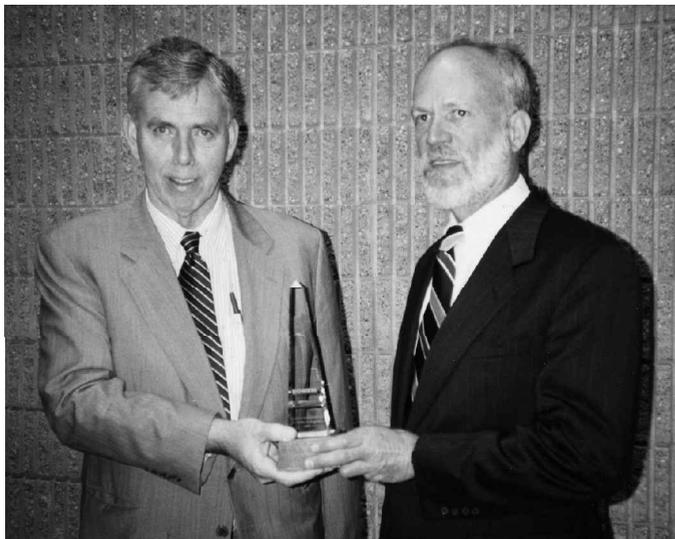
will be kept active for three years, after which the candidate must either be renominated with an updated file or the file will be closed.

Previous recipients of the Williams-Wright Award are Norman Wright (1978), Norman Colthup (1979), Jeanette Grasselli (1980), Paul Wilks/James Harrick (1981), Robert Hannah (1982), Harry Willis (1982), Robert Jakobsen (1984), Clara D. Craver/Richard A. Nyquist (1985), Abe Savitzky/Joseph J. Barret (1986), A. Lee Smith (1987), Darwin L. Wood (1988), D. Bruce Chase (1989), John F. Rabolt (1990), Robert J. Obremski (1991), Timothy Harris (1992), Curtis Marcott (1993), John M. Chalmers (1994), Michael R. Philpott (1995), Bob Messerschmidt (1996), and Michael J. Pelletier (1997).

This award includes a \$1000 cash prize plus \$500 toward travel expenses to the Pittsburgh Conference. Nominations should be sent to the Chairman of the Williams-Wright Award Selection Committee [Dr. David Haaland, Sandia National Laboratories, MS 0342, Albuquerque, NM 87185-0343; phone and fax (505)-844-5292; e-mail dmhaala@sandia.gov] before February 1, 1998.

**Bomem-Michelson Award.** This award is dedicated to the memory of Professor A. E. Michelson, developer of the Michelson interferometer. Bomem, Hartman & Braun sponsors the award to honor scientists who have advanced the technique(s) of vibrational, molecular, Raman, or electronic spectroscopy. Contributions may be theoretical or experimental or both. The recipient must be actively working and may be associated with the academic, industrial, governmental, or private sector. The awardee must be 37 years of age. The award consists of a crystal symbol of the Bomem-Michelson award and an honorarium. In order to ensure that the award is based on an independent evaluation of the candidate's achievements, the selection is made by a committee chosen by the Coblenz Society. The presentation will be made at the Pittsburgh Conference in March 1998.

Previous recipients of the Bomem-Michelson Award are Thomas G. Spiro (1987), Carl Linberger (1988), Richard J. Saykally (1989), William Klemperer (1990), Alan Pine (1991), Jyrki Kauppinen (1992), Jack L. Koenig (1993), Herbert L. Strauss (1994), Terry Miller (1995), Ira Levin (1996), and William H. Woodruff (1997).



Henry Buijs of Bomem, Inc. (L) presents the Bomem-Michelson Award to Woody Woodruff of Los Alamos National Laboratory (R), in Atlanta at the Pittsburgh Conference this past March.

The nomination should include a resume of the candidate's career as well as the special research achievements that make the candidate an eligible nominee for the Bomem-Michelson Award. Files on nominees will be kept active for three years, after which the candidate must either be renominated with an updated file or the file will be closed. The nominating letter and supporting letters should be set to Dr. Nancy Ferris, Analytical Technology Division, Eastman Kodak Company, Rochester, NY 14650-2132; phone (716)-722-0418; fax (716)-477-7781. Nominations will close March 31, 1998.

**Ellis R. Lippincott Award.** The purpose of the Ellis R. Lippincott Award is to honor Dr. Lippincott's memory by the recognition of significant contributions and notable achievements in the field of vibrational spectroscopy. The medal is sponsored jointly by the Coblenz Society, the Optical Society of America, and the Society for Applied Spectroscopy. It is awarded annually at an appropriate scientific meeting. The award consists of the medal and travel allowances to the meeting. The awardee will present an address related to contributions for which he/she is being honored. In addition there may be a symposium of talks by invited speakers.

Recipients of the medal must have made significant contributions to vibrational spectroscopy as judged by their influence on other scientists. Because innovation was a hallmark of the work of Ellis R. Lippincott, this quality in the contributions of the candidates will be carefully appraised. The contributions may be theoretical or experimental or both, and may have been made in the course of applied as well as basic research.

No restriction is placed on the citizenship or national origin of candidates. A candidate need not be a member of any of the sponsoring societies. The award will not be made posthumously unless an awardee should die after the procedure of selection has been completed.

Previous recipients include Richard G. Lord (1976), Lionel Bellamy (1977), Bryce Crawford, Jr. (1978), E. Bright Wilson (1979), George C. Pimentel (1980), Ian Mills (1981), Michel Delhaye (1982), John Overend



The Bomem-Michelson Award Symposium at the Pittsburgh Conference in Atlanta featured (left to right) John Hellgeth (symposium chairman, Spectra-Tech, Inc.), Henry Buijs (award presenter, Bomem, Inc.), T. G. Spiro (speaker, Princeton University), William W. Woodruff (awardee, Los Alamos National Laboratory), Gerald Babcock (speaker, Michigan State University), and Edwin Heilweil (speaker, National Institutes of Standards and Technology).

(1983), Jon T. Hougen (1984), Ira W. Levin (1985), Wolfgang Kaiser (1986), C. Bradley Moore (1987), Andreas C. Albrecht (1988), Marilyn E. Jacox (1989), Robert W. Fields (1990), Richard J. Saykally (1992), John F. Rabolt (1993), Herbert L. Strauss (1994), Giacinto Scoles (1995), Giuseppe Zerbi (1996), and Robin Hochstrasser (1997).

Nominations should contain the name and affiliation of the nominee and sufficient background information to justify the nomination. A nominator is expected to believe sufficiently strongly in the quality of the work of his or her candidate to provide evidence for that belief. No restriction is placed on who may nominate, and all nominations received by the committee prior to May 1 in any given year will be considered for the award to be presented in the fall of the following year. Files on nominees are kept active for three years, after which the candidate must be renominated with an updated file or the file will be closed. Nominations should be submitted to Chairman, Lippincott Award Selection Committee, % Optical Society of America, 2010 Massachusetts Ave., N.W., Washington, DC 20036; phone (202)416-1403; fax (202)416-6130.

## SOCIETY ANNOUNCEMENTS

**Membership.** Anyone wishing to join the Society may do so by sending \$10 to Dr. James A. de Haseth, Co-



Many spectroscopists enjoy the Coblenz Society Wine and Cheese Reception after the Williams-Wright Symposium every year at the Pittsburgh Conference and look forward to the informal discussion that take place.

blentz Society Membership Chairman, Department of Chemistry, University of Georgia, Athens, GA 30602.

**Board Meeting.** The Coblentz Society Board will hold its semi-annual meeting the last week in October at the FACSS Conference in Providence, Rhode Island. Any article of business that you want the Board members to consider needs to be sent in writing to Arlene Garrison, Coblentz Society President (see address at end of newsletter), prior to the conference.

**Board Members.** Two new board members are elected by the Society each year. Please send nominations for the term 1998–2002 to Coblentz Society President, Arlene Garrison (see address at end of newsletter), by September 1st.

**Honorary Members.** The Society is awarding honorary memberships in the Society to people who have made outstanding contributions to the field of Spectroscopy. Send your nomination for 1998 to Arlene Garrison, Coblentz Society President (see address at end of newsletter), prior to September 1st.

### COBLENTZ SOCIETY BOARD

<u>Name</u>	<u>Term Expires</u>	<u>Telephone</u>
Dr. Nancy Ferris Analytical Technical Division Eastman Kodak Company Bldg. 82 Rochester, NY 14650-2132	1988	(716)722-0418
Dr. Robin Garrell Department of Chemistry UCLA 405 Hilgard Ave. Los Angeles, CA 90024	1998	(310)825-2496
Dr. Fran Adar Instruments S.A. 3880 Park Ave. Edison, NH 08820	1999	(908)549-7144
Dr. Terry Gustafson Department of Chemistry The Ohio State University Columbus, OH 43210	1999	(614)292-1832
Dr. Nancy Klymbo IBM Corp. Hudson Valley Research Park Route 52 Hopewell Jct., NY 12533	2000	(914)894-5752
Professor M. D. Morris Department of Chemistry The University of Michigan 930 N. University Ave. Ann Arbor, MI 48109-1055	2000	(313)764-7360
Dr. John Coates Coates Consulting P.O. Box 3176 Newton, CT 06740-3176	2001	(203)426-8495



Arlene Garrison, incoming President (R), presents a gift to John Bertie, outgoing President (L), at the Coblentz Society Board meeting last March.

Dr. Concetta Paralusz 1365 Carlisle Road North Brunswick, NJ 08902	2001	(908)828-9136
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### COBLENTZ SOCIETY OFFICERS

President:	Dr. Arlene Garrison Director MCEC 102 Eastbrook Hall University of Tennessee Knoxville, TN 37966-1600	(423)974-2375
Secretary:	Dr. David Schiering Spectra-Tech, Inc. 2 Research Drive Shelton, CT 06484	(800)243-9186
Treasurer:	Dr. Bruce Chase CR&D 328/131A Experimental Station E. I. du Pont Wilmington, DE 19898-0328	(302)695-4434
Immediate Past President:	Dr. John E. Bertie Department of Chemistry University of Alberta Edmonton, Alberta T6G 2G2 Canada	(403)492-3560
Newsletter Editor:	Dr. Kathryn S. Kalasin- sky Armed Forces Institute of Pathology Division of Forensic Toxicology Washington, DC 20306	(301)319-0055